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Development

Manatū Ōhanga

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PCT/NZ2004/000023

REC'D 16 MAR 2004

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CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that annexed is a true copy of the Provisional Specification as filed on 24 March 2003 with an application for Letters Patent number 524908 made by Jonathan James Ferguson PHILLIPS.

Dated 2 March 2004.

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Neville Harris
Commissioner of Patents, Trade Marks and Designs



524908

Patents Form No. 4

Patents Act 1953

PROVISIONAL SPECIFICATION

ROTATING SIGN

I, Jonathan James Ferguson PHILLIPS, a New Zealand citizen of 5A St Clio Street,
Christchurch, New Zealand, do hereby declare this invention to be described in the
following statement:

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The present invention relates to improvements in the invention described in co-pending New Zealand Patent Application No. 524092.

5 The first improvement relates to an alternative method of controlling the speed of rotation of the sign and broadly relates to the provision of a drum brake attached to the rotating portion of the sign, with the brake pad adapted to bear against the stationary base of the design with a force dependent upon the speed of rotation of the sign.

10 The second improvement relates to an arrangement for providing electrical illumination of the sign.

By way of example only, the above improvements are described in detail with reference to the accompanying drawings, in which:-

15 Figure 1 shows a longitudinal section through a sign incorporating both of the above improvements; and

Figure 2 shows a plan view of the drum brake arrangement on a larger scale.

20 Referring to the drawings, the drum brake arrangement is designed to control the speed of rotation of the rotating sign portion 3 relative to the stationary base 30. The rotating sign portion 3 is mounted for rotation relative to the base 30 on a hollow axle 31; the axle 31 is mounted in bearings (not shown) in the base in known manner.

25 As shown on an enlarged scale in Figure 2, the drum brake arrangement 32 consists of a control arm 33 which is pivotally secured to the lower edge of the sign 3 by an inclined pin 34; the arm 33 is inclined downwards at an acute angle to the lower edge of the sign 3.

30 The free end of the arm 33 carries a weight 35 which can be varied in position along the length of the arm 33 by sliding the weight 35 along a slot 36 in the arm 33 and securing the weight 35 in the required position along the length of the arm 33. Adjacent the pin 34, the arm 33 carries a brake pad 40.

35 The surface of the base 30 immediately beneath the lower edge of the sign 3 is formed

with a circular cross section depression 37 concentric with the axle 31, to accommodate the arm 33, weight 35 and brake pad 40, without these items being visible on the outside of the sign:- the edge of the depression 37 stops short of the edge of the base 30.

5

The brake pad 40 is arranged with the braking surface of the disc space a short distance away from the wall 38 of the depression 37. When the brake is in the inactive position shown in Figure 2, the angle of inclination of the arm 33 and the weight of the arm 33 and the weight 35 draw the brake pad 40 away from the wall 38, so that there is no braking of the sign. However, as the sign 3 rotates, centrifugal force moves the weight 35 and the attached arm 33 in the direction of Arrow A, thus bringing the brake pad 40 into braking contact with the wall 38 and slowing the rate of rotation of the sign.

The further towards the end of the slot 36 in the weight 35 is positioned, the greater the centrifugal force and the lower the speed of the sign 3 before the brake comes into effect. Moving the weight 33 down the length of the arm 33 towards the pin 34 permits the sign to achieve a greater speed of rotation before the brake comes into effect.

Referring to Figure 1, the arrangement for providing electrical illumination to the other portion 45 of the sign 3 is shown diagrammatically. The portion 45 may remain stationary while the main portion 3 of the sign rotates or may be arranged to rotate with the sign 3.

Power may be supplied to the sign from the mains or from batteries (not shown) stored in the base 30. In either case, one terminal is connected to the axle 31 and the other to a wire 46 which passes through the centre of the hollow axle 31. The other end of the axle 31 is in electrical contact with a metal roller bearing 47 which is in electrical contact with a metal post 48 which extends vertically between the sign 45 and the bearing 47, through an electrically insulating layer 49, to provide a negative terminal in the sign.

The wire 46 is in electrical contact with a single ball bearing 15 which is mounted in a layer of insulation 51 on the top of the axle 31 and provides an electrical connection to a positive terminal 52 which extends through the insulating layer 49 and into the interior of the sign 45. The sign illumination is connected to the positive and negative



terminals in known manner.

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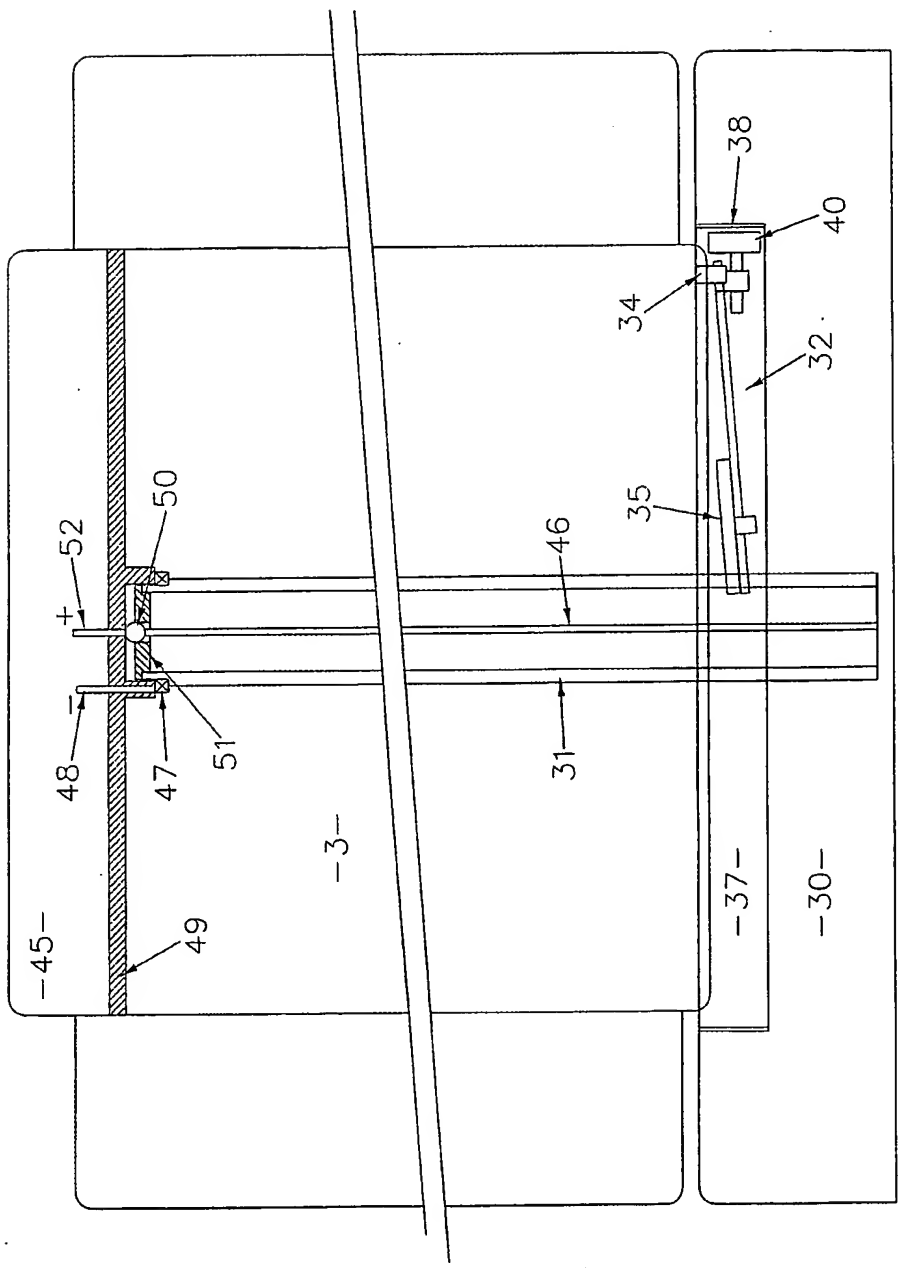


Fig.1

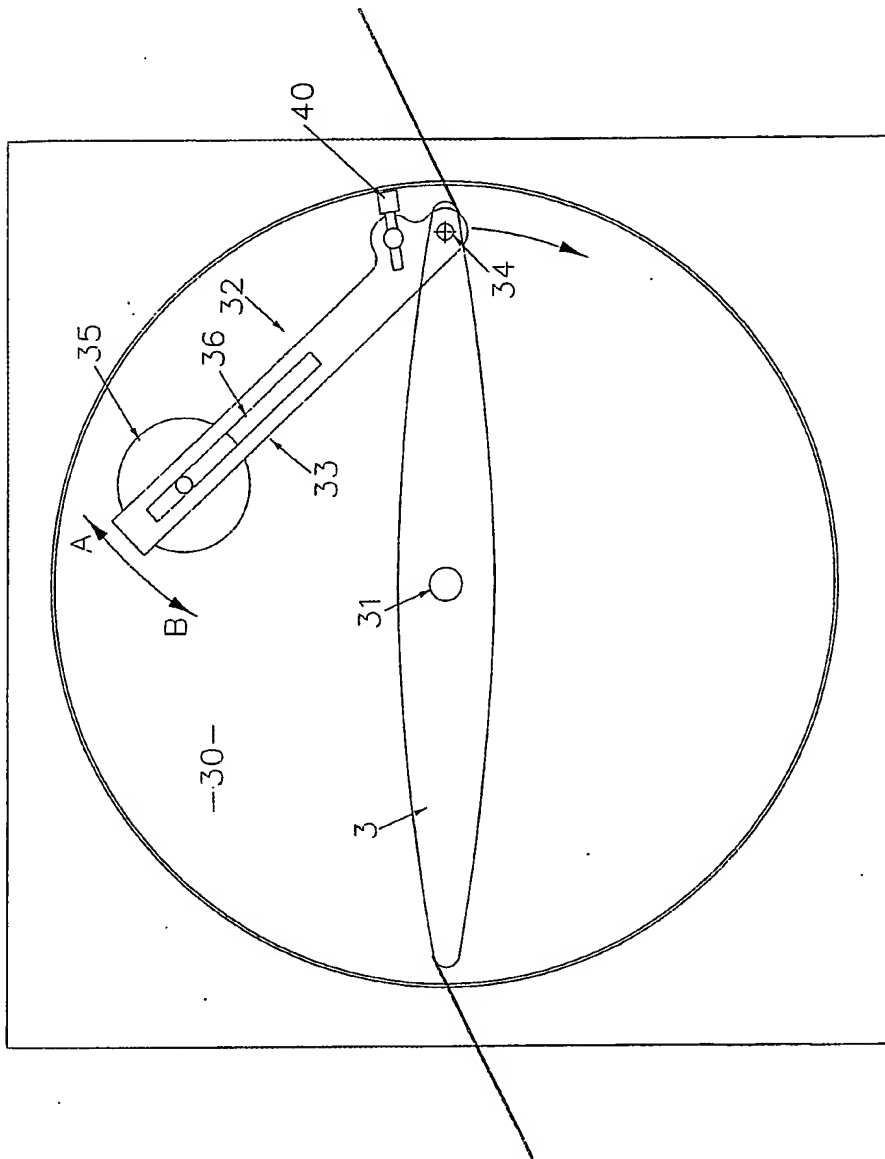


Fig. 2

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